AMENDMENTS TO THE CLAIMS

1. (Currently Amended) An apparatus comprising:

a plurality of light-emitting devices including at least one first light-emitting device configured to emit first radiation having a first spectrum and at least one second light-emitting device configured to emit second radiation having a second spectrum different than the first spectrum;

a controller configured to control the plurality of light-emitting devices to produce composite radiation having at least one resulting spectrum that simulates a desired spectrum corresponding to sample radiation generated by a predetermined light source; and

~~at least one~~ a single sensor configured to measure ~~at least one of the composite radiation~~ both of the first radiation and the second radiation produced by the apparatus and provide at least one corresponding measurement signal to the controller; or

at least one sensor configured to measure the sample radiation generated by the predetermined light source and provide at least one corresponding measurement signal to the controller.

2. (Previously presented) The lighting apparatus as defined in claim 1, wherein a first quantity of the at least one first light-emitting device and a second quantity of the at least one second light-emitting device are selected such that, if the controller supplies predetermined electrical power to the plurality of light-emitting devices, then the at least one resulting spectrum substantially simulates the desired spectrum.

3. (Previously presented) The lighting apparatus as defined in claim 1, wherein a first quantity of the at least one first light-emitting device and a second quantity of the at least one second light-emitting device are selected such that, if the controller supplies maximum electrical power to all of the plurality of light-emitting devices, then the at least one resulting spectrum substantially simulates the desired spectrum.

4. (Previously presented) The lighting apparatus as defined in claim 1, wherein the controller further is configurable to supply selected amounts of electrical power to the plurality of light-emitting devices such that the at least one resulting spectrum substantially simulates the desired spectrum, wherein the predetermined light source includes at least one of an incandescent lamp, a fluorescent lamp and a halogen lamp.

5. (Previously presented) The lighting apparatus as defined in claim 1, wherein a first quantity of the at least one first light-emitting device is different than a second quantity of the at least one second light-emitting device.

6. (Previously presented) The lighting apparatus as defined in claim 1, wherein the plurality of light-emitting devices include at least five different light-emitting devices configured to emit radiation having five different respective spectra.

7. (Previously presented) The lighting apparatus as defined in claim 1, wherein the plurality of light-emitting devices include at least eight different light-emitting devices configured to emit radiation having eight different respective spectra.

8. (Previously presented) The lighting apparatus as defined in claim 1, wherein the plurality of light-emitting devices includes a plurality of light-emitting diodes (LEDs).

9. (Previously presented) The lighting apparatus as defined in claim 1, wherein the plurality of light-emitting devices together comprise an optical assembly that collects the emitted first and second radiation and projects the composite radiation from the apparatus.

10. (Previously presented) The lighting apparatus as defined in claim 1, wherein the controller is configured to control the plurality of light-emitting devices such that the at least one resulting spectrum of the composite radiation has a normalized mean deviation across the visible spectrum of less than about 25% relative to the desired spectrum.

11. (Previously presented) The lighting apparatus as defined in claim 1, wherein the controller is configured to control the plurality of light-emitting devices such that the at least one resulting spectrum of the composite radiation has a normalized mean deviation across the visible spectrum of less than about 20% relative to the desired spectrum.

12. (Previously presented) The lighting apparatus as defined in claim 1, wherein the apparatus is configured such that the at least one resulting spectrum and the desired spectrum are within 5 db of each other across the visible spectrum when the controller supplies prescribed maximum amounts of electrical power to all of the light-emitting devices.

13. (Previously presented) The lighting apparatus as defined in claim 1, wherein each of the first spectrum and the second spectrum has a spectral half-width of less than about 40 nanometers.

14. (Previously presented) The lighting apparatus as defined in claim 1, wherein:

each of the first spectrum and the second spectrum has a predetermined peak wavelength and a predetermined spectral half-width;

the peak wavelength of the first spectrum is spaced less than about 50 nanometers from the peak wavelength of the second spectrum; and

the spectral half-width of each of the first spectrum and the second spectrum is less than about 40 nanometers.

15. (Previously Presented) A lighting apparatus comprising:

a plurality of groups of light-emitting devices including at least one first light-emitting device group configured to emit first radiation having a first spectrum and at least one second light-emitting device group configured to emit second radiation having a second spectrum different from the first spectrum, wherein at least two of the plurality of groups of light-emitting devices include different quantities of light-emitting devices; and

a controller configurable to supply selected amounts of electrical power to the plurality of groups of light-emitting devices to produce composite radiation,

wherein the composite radiation has at least one resulting spectrum including wavelengths only within a contiguous bandwidth of a predetermined target range when the controller supplies prescribed maximum amounts of the electrical power to all of the groups of light-emitting devices.

16. (Previously presented) The lighting apparatus as defined in claim 15, wherein:

each group of light-emitting devices is free of a filter that substantially changes the spectrum of its emitted radiation; and

the controller is configurable to supply selected amounts of the electrical power to the plurality of groups of light-emitting devices, such that the at least one resulting spectrum simulates a desired spectrum of a predetermined light source having at least one of an incandescent lamp, a fluorescent lamp, and a halogen lamp.

17. (Previously presented) The lighting apparatus as defined in claim 16, wherein the controller is configured to control the plurality of groups of light-emitting devices such that the at least one resulting spectrum has a normalized mean deviation across the visible spectrum of less than about 30% relative to the desired spectrum.

18. (Previously presented) The lighting apparatus as defined in claim 16, wherein respective quantities of devices included in each of the plurality of groups of light-emitting devices are selected such that, if the controller supplies maximum electrical power to all of the groups, then the at least one resulting spectrum has a normalized mean deviation across the visible spectrum of less than about 30% relative to the desired spectrum.

19. (Previously presented) The lighting apparatus as defined in claim 15, wherein the at least one spectrum includes significant wavelengths of less than about 600 nanometers when the controller supplies prescribed maximum amounts of electrical power to all of the groups of light-emitting devices.

20. (Previously presented) The lighting apparatus as defined in claim 15, wherein the at least one resulting spectrum includes significant wavelengths of more than about 550 nanometers when the controller supplies prescribed maximum amounts of electrical power to all of the groups of light-emitting devices.

21. (Canceled)

22. (Previously presented) The lighting apparatus as defined in claim 15, wherein the plurality of groups of light-emitting devices include at least four groups of light-emitting devices configured to emit four different respective spectra.

23. (Previously presented) The lighting apparatus as defined in claim 15, wherein each of the plurality of groups of light-emitting devices includes a plurality of light-emitting diodes.

24. (Previously presented) The lighting apparatus as defined in claim 15, wherein:

each of the first spectrum and the second spectrum has a predetermined peak wavelength and a predetermined spectral half-width;

the peak wavelength of the first spectrum is spaced less than about 50 nanometers from the peak wavelength of the second spectrum; and

the spectral half-width of each of the first spectrum and the second spectrum is less than about 40 nanometers.

25. (Previously presented) The lighting apparatus as defined in claim 15, wherein the controller is configured to control the plurality of groups of light-emitting devices such that the at least one resulting spectrum includes wavelengths only within a contiguous bandwidth of less than about 200 nanometers.

26. (Previously presented) The lighting apparatus as defined in claim 15, wherein no portion of

the contiguous bandwidth of the at least one resulting spectrum has a relative power more than 5 db lower than another portion of the contiguous bandwidth of the at least one resulting spectrum.

27. (Previously presented) The lighting apparatus as defined in claim 15, wherein no portion of the contiguous bandwidth of the at least one resulting spectrum has a relative power more than 2 db lower than another portion of the contiguous bandwidth of the at least one resulting spectrum.

28. (Previously presented) A lighting apparatus comprising:

a plurality of groups of light-emitting devices-including at least one first group of light-emitting devices configured to emit first radiation having a first spectrum and at least one second group of light-emitting devices configured to emit second radiation having a second spectrum different than the first spectrum, wherein the at least one first group and the at least one second group include substantially different quantities of devices; and

a controller configured to control the plurality of groups of light-emitting devices to produce composite radiation having at least one resulting spectrum that simulates a desired spectrum corresponding to sample radiation generated by a predetermined light source.

29. (Previously presented) A lighting apparatus as defined in claim 28, wherein:

each of the plurality of groups of light-emitting devices is free of a filter that substantially changes the spectrum of its emitted radiation; and

the controller is configurable to supply selected amounts of electrical power to the plurality of groups of light-emitting devices, such that the at least one resulting spectrum has a normalized mean deviation across the visible spectrum of less than about 30% relative to the desired spectrum.

30. (Previously presented) The lighting apparatus as defined in claim 29, wherein the respective quantities of devices included in each of the plurality of groups of light-emitting devices are selected such that, if the controller supplies prescribed maximum amounts of electrical power to all of the groups, then the at least one resulting spectrum has a normalized mean deviation across the visible spectrum of less than about 30% relative to the desired spectrum.

31. (Previously presented) The lighting apparatus as defined in claim 29, wherein the at least one resulting spectrum and the desired spectrum are within 5 db of each other across the visible spectrum when the controller supplies prescribed maximum amounts of electrical power to all of the groups of light-emitting devices.

32. (Previously presented) The lighting apparatus as defined in claim 28, wherein:

the controller is configurable to supply selected amounts of electrical power to the plurality of groups of light-emitting devices, such that the at least one resulting spectrum substantially simulates the desired spectrum, wherein the predetermined light source includes at least one of an incandescent source, a fluorescent source, and a halogen source.

33. (Previously presented) The lighting apparatus as defined in claim 28, wherein the plurality of groups of light-emitting devices include at least four groups of light-emitting devices configured to emit radiation having four respective different spectra.

34. (Previously presented) The lighting apparatus as defined in claim 28, wherein each of the plurality of groups of light-emitting devices includes a plurality of light-emitting diodes.

35. (Previously presented) The lighting apparatus as defined in claim 28, wherein:

each of the first spectrum and the second spectrum has a predetermined peak wavelength and a predetermined spectral half-width;

the peak wavelength of the first spectrum is spaced less than about 50 nanometers from the peak wavelength of the second spectrum; and

the spectral half-width of each of the first spectrum and the second spectrum is less than about 40 nanometers.

36. (Previously Presented) A lighting apparatus comprising:

five or more groups of light-emitting devices configured to emit radiation having five or more respective different spectra, wherein each of the five or more groups of light-emitting devices includes a plurality of light-emitting diodes (LEDs); and

a controller configurable to control the five or more groups of light-emitting devices to produce composite radiation having at least one resulting spectrum that simulates a predetermined desired spectrum.

37. (Previously presented) The lighting apparatus as defined in claim 36, wherein the five or more groups of light-emitting devices include eight or more groups of light-emitting devices configured to emit radiation having eight or more respective different spectra.

38. (Canceled)

39. (Previously presented) The lighting apparatus as defined in claim 36, wherein:

each of the respective different spectra has a predetermined peak wavelength and a predetermined spectral half-width;

the peak wavelength of each of the respective different spectra is spaced less than about 50 nanometers from the peak wavelength of another of the respective different spectra; and

the spectral half-width of each of the respective different spectra is less than about 40 nanometers.

40. (Previously presented) The lighting apparatus as defined in claim 36, wherein the five or more groups of light-emitting devices cooperate to emit radiation spanning substantially the entire visible spectrum.

41. (Previously Presented) The lighting apparatus as defined in claim 36, further comprising:

at least one memory to store a representative LED spectrum for each of the five or more groups of light-emitting devices,

wherein the controller is configured to produce the composite radiation having the at least one resulting spectrum based on at least some of the representative LED spectrums.

42. (Previously Presented) The lighting apparatus as defined in claim 36, wherein the predetermined desired spectrum corresponds to sample radiation generated by at least one of an incandescent light source, a fluorescent light source and a halogen light source.

43. (Previously Presented) The lighting apparatus as defined in claim 36, wherein:

the predetermined desired spectrum includes a plurality of predetermined desired spectrums; and

the lighting apparatus further comprises at least one user interface to facilitate selection of at least one preferred spectrum for simulation from the plurality of predetermined desired spectrums.

44. (Previously presented) The apparatus of claim 1, wherein the predetermined light source includes at least one incandescent light source.

45. (Previously presented) The apparatus of claim 1, wherein the predetermined light source includes at least one fluorescent light source.

46. (Previously presented) The apparatus of claim 1, wherein the predetermined light source includes at least one halogen light source.

47. (Previously presented) The apparatus of claim 1, wherein the predetermined light source includes ambient outdoor daylight.

48. (Previously presented) The apparatus of claim 47, wherein the desired spectrum corresponds essentially to cloudy conditions for the ambient outdoor daylight.

49. (Previously presented) The apparatus of claim 47, wherein the desired spectrum corresponds to essentially sunny conditions for the ambient outdoor daylight.

50. (Previously presented) The apparatus of claim 47, wherein the desired spectrum corresponds to one of a sunrise and a sunset.

51. (Previously presented) The apparatus of claim 1, wherein the predetermined light source includes at least one substantially white light source.

52. (Previously presented) The apparatus of claim 51, wherein the predetermined light source includes only one or more substantially white light sources.

53. (Previously presented) The apparatus of claim 51, wherein the sample radiation has a predetermined color temperature.

54. (Previously presented) The apparatus of claim 53, wherein the controller is configured to control at least one of a first intensity of the first radiation and a second intensity of the second radiation based at least in part on the predetermined color temperature.

55. (Previously presented) The apparatus of claim 53, wherein at least one of the first spectrum and the second spectrum is selected based at least in part on the predetermined color temperature.

56. (Previously presented) The apparatus of claim 55, wherein the controller is configured to control at least one of a first intensity of the first radiation and a second intensity of the second radiation based at least in part on the predetermined color temperature.

57. (Previously presented) The apparatus of claim 55, wherein a first number of the at least one first light-emitting device and a second number of the at least one second light-emitting device are selected based at least in part on the predetermined color temperature.

58. (Previously presented) The apparatus of claim 57, wherein the controller is configured to control at least one of a first intensity of the first radiation and a second intensity of the second radiation based at least in part on the predetermined color temperature.

59. (Previously presented) The apparatus of claim 53, wherein a first number of the at least one first light-emitting device and a second number of the at least one second light-emitting device are selected based at least in part on the predetermined color temperature.

60. (Previously presented) The apparatus of claim 53, wherein the plurality of light emitting devices includes at least one third light-emitting device configured to emit third radiation having a third spectrum different than the first spectrum and the second spectrum.

61. (Previously presented) The apparatus of claim 60, wherein the plurality of light emitting devices is configured to generate up to nine different spectra of radiation which combine to produce the composite radiation.

62. (Previously presented) The apparatus of claim 53, wherein the plurality of light emitting devices includes a plurality of light emitting diodes (LEDs).

63. (Previously presented) The apparatus of claim 62, wherein the plurality of LEDs includes at least one white LED.

64. (Previously presented) An apparatus comprising:

a plurality of light-emitting devices including at least one first light-emitting device configured to emit first radiation having a first spectrum and at least one second light-emitting device configured to emit second radiation having a second spectrum different than the first spectrum;

a controller configured to control the plurality of light-emitting devices to produce composite radiation having at least one resulting spectrum that simulates a desired spectrum corresponding to sample radiation generated by a predetermined light source; and

at least one sensor configured to measure at least one of the composite radiation produced by the apparatus and the sample radiation generated by the predetermined light source and provide at least one corresponding measurement signal to the controller,

wherein the predetermined light source includes at least one substantially white light source,

wherein the sample radiation has a predetermined color temperature,

wherein the plurality of light emitting devices includes a plurality of light emitting diodes (LEDs),

wherein the plurality of LEDs includes at least one white LED, and

wherein the at least one white LED includes at least two white LEDs configured to emit radiation having respectively different spectra.

65. (Canceled)

66. (Previously presented) The apparatus of claim 53, wherein the controller is configured to control the plurality of light emitting devices based on the at least one corresponding measurement signal such that the composite radiation has substantially the predetermined color temperature.

67. (Currently Amended) The apparatus of claim 66, including the single sensor for measuring both of the first radiation and the second radiation, wherein:

~~the at least one sensor is configured to measure the composite radiation; and~~

the controller is configured to control the plurality of light emitting devices such that the composite radiation is stabilized to have the predetermined color temperature.

68. (Previously presented) The apparatus of claim 51, wherein the controller is configured to control the plurality of light-emitting devices so as to vary at least one of a color temperature and an intensity of the composite radiation.

69. (Previously presented) The apparatus of claim 68, wherein the controller is configured to control the plurality of light-emitting devices so as to vary the color temperature of the composite radiation within a range of from approximately 500 degrees Kelvin to 10,000 degrees Kelvin.

70. (Previously presented) An apparatus comprising:

a plurality of light-emitting devices including at least one first light-emitting device configured to emit first radiation having a first spectrum and at least one second light-emitting device configured to emit second radiation having a second spectrum different than the first spectrum;

a controller configured to control the plurality of light-emitting devices to produce composite radiation having at least one resulting spectrum that simulates a desired spectrum corresponding to sample radiation generated by a predetermined light source; and

at least one sensor configured to measure at least one of the composite radiation produced by the apparatus and the sample radiation generated by the predetermined light source and provide at least one corresponding measurement signal to the controller,

wherein the predetermined light source includes at least one substantially white light source,

wherein the controller is configured to control the plurality of light-emitting devices so as to vary at least one of a color temperature and an intensity of the composite radiation, and

wherein the controller is configured to vary the color temperature within a range of from approximately 2300 degrees Kelvin to 4500 degrees Kelvin.

71. (Previously presented) The apparatus of claim 68, wherein the controller further is configured to control the plurality of light-emitting devices so as to vary both the color temperature and the intensity of the composite radiation.

72. (Previously presented) The apparatus of claim 68, further comprising at least one user interface coupled to the controller and configured to facilitate control of at least one of the color temperature and the intensity of the composite radiation.

73. (Previously presented) The apparatus of claim 72, wherein the at least one user interface and the controller are configured to facilitate simultaneous control of both the color temperature and the intensity of the composite radiation.

74. (Previously presented) The apparatus of claim 68, wherein the plurality of light emitting devices includes at least one third light-emitting device configured to emit third radiation having a third spectrum different than the first spectrum and the second spectrum.

75. (Previously presented) The apparatus of claim 74, wherein the plurality of light emitting devices is configured to generate up to nine different spectra of radiation which combine to produce the composite radiation.

76. (Previously presented) The apparatus of claim 68, wherein the plurality of light emitting devices includes a plurality of light emitting diodes (LEDs).

77. (Previously presented) The apparatus of claim 76, wherein the plurality of LEDs includes at least one white LED.

78. (Previously presented) An apparatus comprising:

a plurality of light-emitting devices including at least one first light-emitting device configured to emit first radiation having a first spectrum and at least one second light-emitting device configured to emit second radiation having a second spectrum different than the first spectrum;

a controller configured to control the plurality of light-emitting devices to produce composite radiation having at least one resulting spectrum that simulates a desired spectrum corresponding to sample radiation generated by a predetermined light source; and

at least one sensor configured to measure at least one of the composite radiation produced by the apparatus and the sample radiation generated by the predetermined light source and provide at least one corresponding measurement signal to the controller,

wherein the predetermined light source includes at least one substantially white light source,

wherein the controller is configured to control the plurality of light-emitting devices so as to vary at least one of a color temperature and an intensity of the composite radiation,

wherein the plurality of light emitting devices includes a plurality of light emitting diodes (LEDs),

wherein the plurality of LEDs includes at least one white LED, and

wherein the at least one white LED includes at least two white LEDs configured to emit radiation having respectively different spectra.

79. (Previously presented) The apparatus of claim 68, wherein the controller is configured to control the plurality of light emitting devices based on the at least one corresponding measurement signal.

80. (Currently Amended) A method, comprising acts of:

A) emitting first radiation having a first spectrum and second radiation having a second spectrum different than the first spectrum;

B) controlling at least one of a first intensity of the first radiation and a second intensity of the second radiation to produce composite radiation having at least one resulting spectrum that simulates a desired spectrum corresponding to sample radiation generated by a predetermined light source; and

C) measuring ~~at least one of the composite radiation and~~ both of the first radiation and the second radiation via a single sensor, or measuring the sample radiation generated by the predetermined light source.

81. (Previously presented) The method of claim 80, wherein the predetermined light source includes at least one incandescent light source.

82. (Previously presented) The method of claim 80, wherein the predetermined light source includes at least one fluorescent light source.

83. (Previously presented) The method of claim 80, wherein the predetermined light source includes at least one halogen light source.

84. (Previously presented) The method of claim 80, wherein the predetermined light source includes ambient outdoor daylight.

85. (Previously presented) The method of claim 84, wherein the desired spectrum corresponds essentially to cloudy conditions for the ambient outdoor daylight.

86. (Previously presented) The method of claim 84, wherein the desired spectrum corresponds to essentially sunny conditions for the ambient outdoor daylight.

87. (Previously presented) The method of claim 84, wherein the desired spectrum corresponds to one of a sunrise and a sunset.

88. (Previously presented) The method of claim 80, wherein the predetermined light source includes at least one substantially white light source.

89. (Previously presented) The method of claim 88, wherein the predetermined light source includes only one or more substantially white light sources.

90. (Previously presented) The method of claim 88, wherein the sample radiation has a predetermined color temperature.

91. (Previously presented) The method of claim 90, wherein the act B) comprises:

controlling at least one of the first intensity of the first radiation and the second intensity of the second radiation based at least in part on the predetermined color temperature.

92. (Previously presented) The method of claim 90, wherein the act A) comprises:

selecting at least one of the first spectrum and the second spectrum based at least in part on the predetermined color temperature.

93. (Previously presented) The method of claim 92, wherein the act B) comprises:

controlling at least one of the first intensity of the first radiation and the second intensity of the second radiation based at least in part on the predetermined color temperature.

94. (Previously presented) The method of claim 90, wherein:

the act A) comprises an act of emitting third radiation having a third spectrum different than the first spectrum and the second spectrum; and

the act B) comprises an act of controlling at least one of the first intensity of the first radiation, the second intensity of the second radiation, and a third intensity of the third radiation to produce the composite radiation.

95. (Previously presented) The method of claim 94, wherein the act A) comprises:

emitting up to nine different spectra of radiation which combine to produce the composite radiation.

96. (Previously presented) The method of claim 90, wherein the act A) comprises:

emitting the first radiation and the second radiation via a plurality of light emitting diodes (LEDs).

97. (Previously presented) The method of claim 96, wherein the plurality of LEDs includes at least one white LED.

98. (Previously presented) A method, comprising acts of:

A) emitting first radiation having a first spectrum and second radiation having a second spectrum different than the first spectrum;

B) controlling at least one of a first intensity of the first radiation and a second intensity of the second radiation to produce composite radiation having at least one resulting spectrum that simulates a desired spectrum corresponding to sample radiation generated by a predetermined light source; and

C) measuring at least one of the composite radiation and the sample radiation generated by the predetermined light source,

wherein the predetermined light source includes at least one substantially white light source,

wherein the sample radiation has a predetermined color temperature,

wherein the act A) comprises:

emitting the first radiation and the second radiation via a plurality of light emitting diodes (LEDs),

wherein the plurality of LEDs includes at least one white LED, and

wherein the at least one white LED includes at least two white LEDs configured to emit radiation having respectively different spectra.

99. (Canceled)

100. (Previously presented) The method of claim 90, wherein the act B) includes:

controlling at least one of the first intensity of the first radiation and the second intensity of the second radiation based on the act C) such that the composite radiation has substantially the predetermined color temperature.

101. (Previously presented) The method of claim 100, wherein:

the act C) includes an act of measuring the composite radiation; and

the act B) includes an act of controlling at least one of the first intensity of the first radiation and the second intensity of the second radiation such that the composite radiation is stabilized to have the predetermined color temperature.

102. (Previously presented) The method of claim 88, wherein the act B) comprises:

B1) controlling at least one of the first intensity of the first radiation and the second intensity of the second radiation so as to vary at least one of a color temperature and an intensity of the composite radiation.

103. (Previously presented) The method of claim 102, wherein the act B1) comprises:

controlling at least one of the first intensity of the first radiation and the second intensity of the second radiation so as to vary the color temperature of the composite radiation within a range of from approximately 500 degrees Kelvin to 10,000 degrees Kelvin.

104. (Previously presented) A method, comprising acts of:

A) emitting first radiation having a first spectrum and second radiation having a second spectrum different than the first spectrum;

B) controlling at least one of a first intensity of the first radiation and a second intensity of the second radiation to produce composite radiation having at least one resulting spectrum that simulates a desired spectrum corresponding to sample radiation generated by a predetermined light source; and

C) measuring at least one of the composite radiation and the sample radiation generated by the predetermined light source,

wherein the predetermined light source includes at least one substantially white light source,

wherein the act B) comprises:

B1) controlling at least one of the first intensity of the first radiation and the second intensity of the second radiation so as to vary at least one of a color temperature and an intensity of the composite radiation, and

wherein the act B1) comprises:

controlling at least one of the first intensity of the first radiation and the second intensity of the second radiation so as to vary the color temperature within a range of from approximately 2300 degrees Kelvin to 4500 degrees Kelvin.

105. (Previously presented) The method of claim 102, wherein the act B1) comprises:

controlling at least one of the first intensity of the first radiation and the second intensity of the second radiation so as to vary both the color temperature and the intensity of the composite radiation.

106. (Previously presented) The method of claim 102, further comprising:

C) controlling at least one of the color temperature and the intensity of the composite radiation via at least one user interface.

107. (Previously presented) The method of claim 106, wherein the act C) comprises:

simultaneously controlling both the color temperature and the intensity of the composite radiation via the at least one user interface.

108. (Previously presented) The method of claim 102, wherein:

the act A) comprises an act of emitting third radiation having a third spectrum different than the first spectrum and the second spectrum; and

the act B) comprises an act of controlling at least one of the first intensity of the first radiation, the second intensity of the second radiation, and a third intensity of the third radiation to produce the composite radiation.

109. (Previously presented) The method of claim 108, wherein the act A) comprises:

emitting up to nine different spectra of radiation which combine to produce the composite radiation.

110. (Previously presented) The method of claim 102, wherein the act A) comprises:

emitting the first radiation and the second radiation via a plurality of light emitting diodes (LEDs).

111. (Previously presented) The method of claim 110, wherein the plurality of LEDs includes at least one white LED.

112. (Previously presented) A method, comprising acts of:

A) emitting first radiation having a first spectrum and second radiation having a second spectrum different than the first spectrum;

B) controlling at least one of a first intensity of the first radiation and a second intensity of the second radiation to produce composite radiation having at least one resulting spectrum that simulates a desired spectrum corresponding to sample radiation generated by a predetermined light source; and

C) measuring at least one of the composite radiation and the sample radiation generated by the predetermined light source,

wherein the predetermined light source includes at least one substantially white light source,

wherein the act B) comprises:

B1) controlling at least one of the first intensity of the first radiation and the second intensity of the second radiation so as to vary at least one of a color temperature and an intensity of the composite radiation,

wherein the act A) comprises:

emitting the first radiation and the second radiation via a plurality of light emitting diodes (LEDs),

wherein the plurality of LEDs includes at least one white LED, and

wherein the at least one white LED includes at least two white LEDs configured to emit radiation having respectively different spectra.

113. (Previously presented) The method of claim 102, further comprising:

measuring at least one of the composite radiation and the sample radiation generated by the predetermined light source; and

controlling at least one of the first intensity of the first radiation and the second intensity of the second radiation based at least in part on the at least one corresponding measurement signal.

114. (Previously presented) The lighting apparatus as defined in claim 43, further comprising:

at least one memory to store a representative LED spectrum for each of the five or more groups of light-emitting devices,

wherein the controller is configured to produce the composite radiation having the at least one resulting spectrum based on at least some of the representative LED spectrums.

115. (Previously presented) The lighting apparatus as defined in claim 43, wherein the at least one user interface includes at least one palette of colors from which a user can select the at least one preferred spectrum for simulation.

116. (Previously presented) The lighting apparatus as defined in claim 43, wherein the controller is configured to convert an arbitrary designation of the at least one preferred spectrum for simulation to control signals for the five or more groups of light-emitting devices to produce the composite radiation having the at least one resulting spectrum.

117. (Previously presented) The lighting apparatus as defined in claim 43, wherein:

the plurality of predetermined desired spectrums corresponds to a plurality of different color temperatures; and

the user interface is configured to facilitate selection of the at least one preferred spectrum as at least one color temperature of the plurality of different color temperatures.